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LIU, BEN H				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/743,592

Applicant(s)

PARKER ET AL.

Examiner

BEN H. LIU

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This is in response to an amendment/response filed on November 26, 2007.
2. Claims 1, 5, and 6 have been amended.
3. No claims have been cancelled.
4. No claims have been added.
5. Claims 1-7 are currently pending.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frank et al. (U.S. Patent 6,859,430) in view of Brolin et al. (U.S. Patent 6,359,859) and Goodman (U.S. Patent 5,822,299).

For claim 1, Frank et al. disclose a WideBand cross-connect system comprising at least one add/drop multiplexer (*see column 3 lines 37-39, which recite an add/drop multiplexer network element*); a working WideBand switch fabric coupled to the at least one add/drop multiplexer, the working switch fabric receiving a working signal from a first interface on the at least one add/drop multiplexer, the working signal and working payload, the working switch fabric switching the working signal so as to generate a working switched signal and working switched payload, and providing the working switched signal to a second port on the at least one add/drop multiplexer (*see column 6 lines 49-65, which recite a working path corresponding with a switch fabric 304*); a protect WideBand switch fabric coupled to the at least one add/drop multiplexer, the protect switch fabric receiving a protect signal from a third interface on the at least one add/drop multiplexer, the protect signal and protect payload, the protect switch fabric switching the protect signal so as to generate a protect switched signal and protect switched payload, and providing the protect switched signal to a fourth port on the at least one add/drop

multiplexer (*see column 6 lines 49-65, which recite a redundant protection path corresponding with a switch fabric 306*); wherein the at least one SONET add/drop multiplexer selects between the working switched payload and the protect switched payload to send to a client (*see column 8 lines 5-15, which recite using information from errors cell to switch between a working and protection switch fabric*).

Frank et al. disclose all the subject matter of the claimed invention with the exception that the add/drop multiplexer is a SONET multiplexer that supports unidirectional, path-switched rings protection. Brolin et al. from the same or similar fields of endeavor teaches a SONET add/drop multiplexer (*see abstract*) that supports unidirectional, path-switched rings protection (*see column 13 lines 36-47*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the SONET add/drop multiplexer that supports UPSR as taught by Brolin et al. as the add/drop multiplexer configured to be used with fiber optic connections in a ring network (*see column 1 lines 32-33 and column 2 lines 39-40*) as taught by Frank et al. Due to the similarities in functionality, the SONET add/drop multiplexer that supports UPSR as taught by Brolin et al. can be used as the add/drop multiplexer as taught by Frank et al. The motivation for using the SONET add/drop multiplexer that supports UPSR is to improve the reliability of the system by using two redundant paths in the ring network.

Frank et al. and Brolin et al. disclose all the subject matter of the claimed invention with the exception of using Payload Defect Indicator - Path codes to determine errors in the network path. Goodman from the same or similar fields of endeavor teaches using Path Defect Indicator codes to determine the quality of a path (*see column 4 lines 30-24*) in a SONET path protection system (*see column 1 lines 9-13*). Thus, it would have been obvious to the person of ordinary

skill in the art at the time of the invention to use Path Defect Indicator codes to determine the quality of a path as taught by Goodman with the SONET add/drop multiplexer that supports UPSR as taught by Frank et al and Brolin et al. The Path Defect Indicator - Path code can be implemented by configuring the multiplexer as taught by Frank et al. to include Payload Defect Indicator codes in the generated error cells. The motivation for using the Payload Defect Indicator codes is to improve the efficiency of the system by allowing the network to communicate errors and select the proper protection path.

For claim 2, Frank et la. disclose a WideBand cross-connect system wherein the at least one SONET add/drop multiplexer comprises a single SONET add/drop multiplexer (*see figure 3, which recite an add/drop multiplexer coupled to a working and a protection switch fabric*).

For claim 3, Frank et la. disclose a WideBand cross-connect system wherein the at least one SONET add/drop multiplexer comprises a plurality of SONET add/drop multiplexers (*see figure 1, which recite the two switching fabrics coupled to a multiplexer as well as adjacent multiplexers*).

For claim 4, Frank et la. disclose a WideBand cross-connect system wherein the first port and the third port are on different SONET add/drop multiplexers of the plurality of SONET add/drop multiplexers (*see figures 1 and 3, wherein one switch fabric is coupled to a first multiplexer and a second switch fabric is coupled to a second multiplexer*).

For claim 5, Frank et la. disclose a method of providing equipment protection in a WideBand cross-connect system comprising the steps of accepting an input client signal, the input client signal comprising payload, in at least one add/drop multiplexer (*see figures 1 and 3, which recite an access interface module of a multiplexer that receives data from endpoints using*

an access layer device 302); sending the payload to a working and a protect switch fabric (*see figure 3, which recite an access layer device 302 that sends payload to the first and second switch fabrics*); switching the payload in each of the working and protect switch fabrics toward the at least one SONET add/drop multiplexer receiving switched payload from each of the working and protect switch fabrics at the at least one SONET add/drop multiplexer (*see figure 3 and column 6 lines 58-65, which recite switch fabrics 304 and 306 that receives payload from the ring interface module*); and selecting the switched payload from either the working or the protect switch fabric as a working client payload based upon the analysis of the payload (*see column 8 lines 5-15, which recite using information from errors cell to switch between a working and protection switch fabric*).

Frank et al. disclose all the subject matter of the claimed invention with the exception that the add/drop multiplexer is a SONET multiplexer that supports unidirectional, path-switched rings protection. Brolin et al. from the same or similar fields of endeavor teaches a SONET add/drop multiplexer (*see abstract*) that supports unidirectional, path-switched rings protection (*see column 13 lines 36-47*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the SONET add/drop multiplexer that supports UPSR as taught by Brolin et al. as the add/drop multiplexer configured to be used with fiber optic connections in a ring network (*see column 1 lines 32-33 and column 2 lines 39-40*) as taught by Frank et al. Due to the similarities in functionality, the SONET add/drop multiplexer that supports UPSR as taught by Brolin et al. can be used as the add/drop multiplexer as taught by Frank et al. The motivation for using the SONET add/drop multiplexer that supports UPSR is to improve the reliability of the system by using two redundant paths in the ring network.

Frank et al. and Brolin et al. disclose all the subject matter of the claimed invention with the exception of using Payload Defect Indicator - Path codes to determine errors in the network path. Goodman from the same or similar fields of endeavor teaches using Path Defect Indicator codes to determine the quality of a path (*see column 4 lines 30-24*) in a SONET path protection system (*see column 1 lines 9-13*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use Path Defect Indicator codes to determine the quality of a path as taught by Goodman with the SONET add/drop multiplexer that supports UPSR as taught by Frank et al and Brolin et al. The Path Defect Indicator - Path code can be implemented by configuring the multiplexer as taught by Frank et al. to include Payload Defect Indicator codes in the generated error cells. The motivation for using the Payload Defect Indicator codes is to improve the efficiency of the system by allowing the network to communicate errors and select the proper protection path.

For claim 6, Frank et al. and Brolin et al. disclose all the subject matter of the claimed invention with the exception wherein the Payload Defect indicator – codes comprise a working Payload Defect indicator – code and a protect Payload Defect indicator – code and the analysis comprises comparing the working Payload Defect indicator – code and the protect Payload Defect indicator – code to determine which of the working Payload Defect indicator – codes code and the protect Payload Defect indicator – codes indicates a less defective path. Goodman from the same or similar fields of endeavor teaches using Path Defect Indicator codes to determine the quality of a path (*see column 4 lines 30-24*) in a SONET path protection system (*see column 1 lines 9-13*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use Path Defect Indicator codes to determine the quality of a

path as taught by Goodman with the SONET add/drop multiplexer that supports UPSR as taught by Frank et al and Brolin et al. The Path Defect Indicator - Path code can be implemented by configuring the multiplexer as taught by Frank et al. to include Payload Defect Indicator codes in the generated error cells. The motivation for using the Payload Defect Indicator codes is to improve the efficiency of the system by allowing the network to communicate errors and select the proper protection path.

For claim 7, Frank et al. disclose a method of providing equipment protection further comprising a step of outputting a signal comprising the working client payload (*see column 6 lines 58-65, which recite outputting cells to the ring interface associated with different routes of a ring network*). Frank et al. disclose all the subject matter of the claimed invention with the exception that the add/drop multiplexer transmits signals in a SONET network. Brolin et al. from the same or similar fields of endeavor teaches a SONET add/drop multiplexer (*see abstract*) configured to be used with fiber optic connections in a ring network (*see column 1 lines 32-33 and column 2 lines 39-40*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the SONET add/drop multiplexer that supports UPSR as taught by Brolin et al. as the add/drop multiplexer as taught by Frank et al. Due to the similarities in functionality, the SONET add/drop multiplexer that supports UPSR as taught by Brolin et al. can be used as the add/drop multiplexer as taught by Frank et al. The motivation for using the SONET add/drop multiplexer that supports UPSR is to improve the reliability of the system by using two redundant paths in the ring network.

Response to Arguments

1. Claims 1-7 were previously objected for the following informalities:

For claim 1, the acronym "UPSR" in line 3 should be accompanied by the full word definition. Similar problems exist for the acronym "PDI-P" in lines 3, 10, 19, and 25.

For claim 5, the acronym "PDI-D" in lines 8, 11, and 14 should be accompanied by the full word definition. Similar problems exist in claim 6 lines 2-6.

For claims 2-4 are objected since they depend on claim 1. Claim 7 is objected because it depends on claim 5.

Applicant has overcome the objections by amending the claims. In response, the Examiner has withdrawn the objections.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (*See form PTO-892*).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BEN H. LIU whose telephone number is (571)270-3118. The examiner can normally be reached on 9:00AM to 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit
2616

BL